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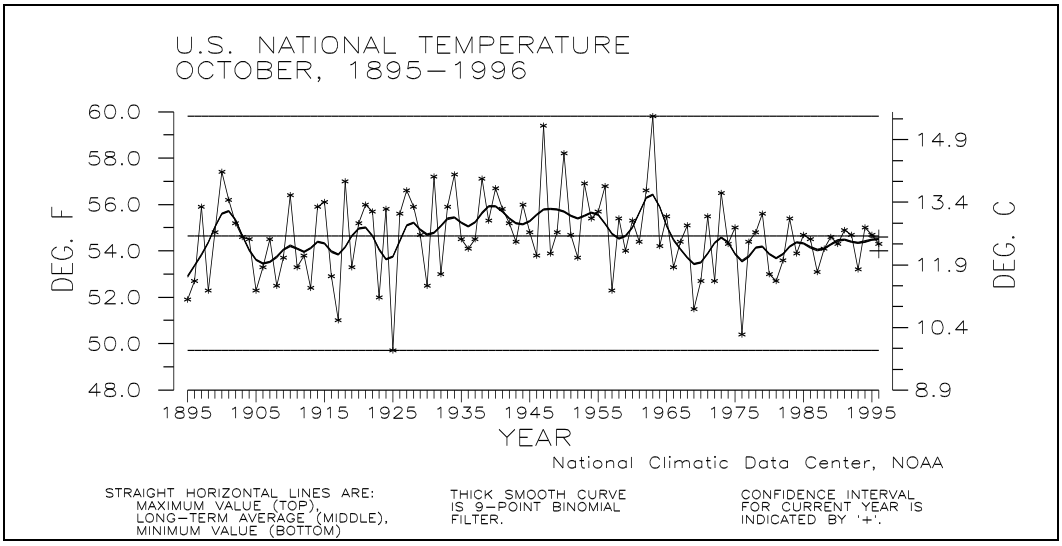
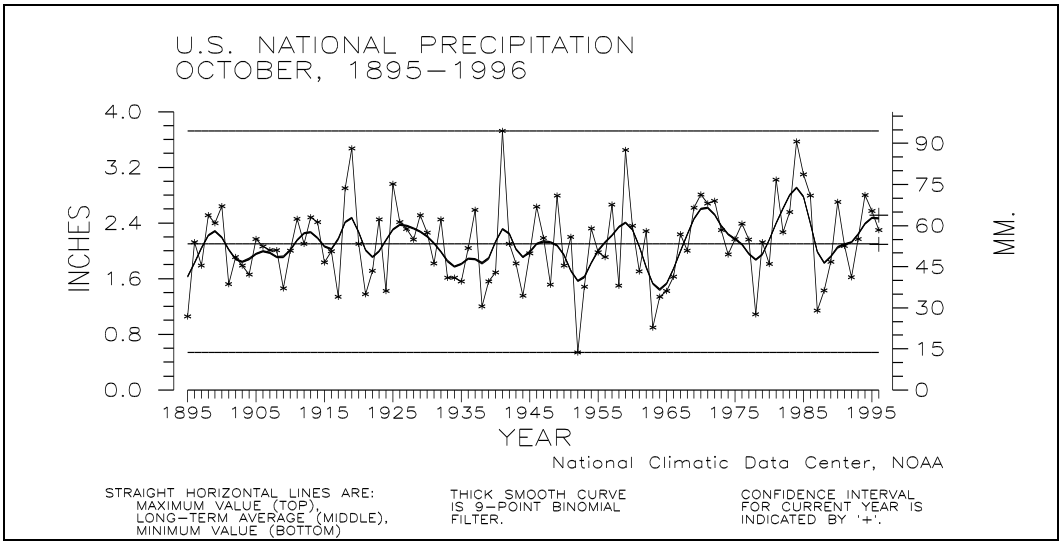
Volume 8 Number 10

CLIMATE VARIATIONS BULLETIN





noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE / NATIONAL CLIMATIC DATA CENTER ASHEVILLE, N.C.

This CLIMATE VARIATIONS BULLETIN (CVB) is a preliminary report that puts current monthly climate anomalies into historical perspective using climate databases archived at the National Climatic Data Center (NCDC). It is issued on a monthly basis. Supplemental sections are included which address seasonal and annual perspectives, when appropriate.

Current data are based on preliminary reports from River Forecast Center stations and First and Second Order airport stations obtained from the National Weather Service (NWS) Climate Prediction Center (formerly, Climate Analysis Center), and preliminary tornado statistics obtained from the NWS National Severe Storms Forecast Center. THE CURRENT DATA SHOULD BE USED WITH CAUTION. These preliminary data are useful for estimating how current anomalies compare to the historical record, however the actual values and rankings for the current year will change as the final data arrive at NCDC and are processed.

The following NCDC datasets are used for the historical data: the climate division drought database (TD-9640), the hurricane datasets (TD-9636 and TD-9697), the tornado dataset (STORM DATA), and the monthly station dataset (LCD supplemental files). It should be noted that the climate division drought database consists of monthly data for 344 climate divisions in the contiguous United States. These divisional values are calculated from the 6000+ station Cooperative Observer network.

If you have access to the Internet, copies of the CVB are available via both the NCDC's World Wide Web (WWW) server and the NCDC's anonymous FTP server.

NCDC's WWW server
URL for the CVB: http://www.ncdc.noaa.gov/publications/cvb/cvb.html

NCDC's anonymous FTP server
Machine: ftp.ncdc.noaa.gov
Directory: /pub/data/cvb

If you are a climate researcher and would like to order copies of the historical datasets used to make graphs of the type in this report, call 704-271-4994 or fax a letter to 704-271-4876 or mail a letter to the address given below, ATTN: Research User Services.

All other questions or requests for data should be made by calling 704-271-4800 or sending a fax to 704-271-4876 or by writing to:

National Climatic Data Center, NOAA
Federal Building
151 Patton Avenue, Room 120
Asheville, NC 28801-5001

If you use any of the information from this CVB, please identify "National Climatic Data Center, NOAA" as the source.

UNITED STATES OCTOBER CLIMATE IN HISTORICAL PERSPECTIVE

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TABLE 1. PRECIPITATION AND TEMPERATURE RANKS, BASED ON THE PERIOD 1895-1996. 1 = DRIEST/COLDEST, 102 = WETTEST/WARMEST FOR OCTOBER 1996, 102 = WETTEST/WARMEST FOR SEP-OCT 1996, 102 = WETTEST/WARMEST FOR MAY-OCT 1996, 101 = WETTEST/WARMEST FOR NOV 1995-OCT 1996.

REGION	OCT 1996	SEP-OCT 1996	MAY-OCT 1996	NOV 1995-OCT 1996
PRECIPITATION:				
NORTHEAST	83	94	99	100
EAST NORTH CENTRAL	85	55	57	53
CENTRAL	37	54	83	66
SOUTHEAST	69	77	54	59
WEST NORTH CENTRAL	93	97	84	70
SOUTH	39	60	62	25
SOUTHWEST	62	86	69	26
NORTHWEST	93	97	96	100
WEST	48	42	57	65
NATIONAL	66	85	88	63
TEMPERATURE:				
NORTHEAST	40	49	39	17
EAST NORTH CENTRAL	56	64	34	7
CENTRAL	46	25	23	6
SOUTHEAST	41	28	33	5
WEST NORTH CENTRAL	42	43	49	36
SOUTH	45	23	58	43
SOUTHWEST	39	27	93	100
NORTHWEST	42	40	55	85
WEST	49	54	95	100
NATIONAL	37	28	62	48

TABLE 2. EXTREMES, 1961-90 NORMALS, AND 1996 VALUES FOR OCTOBER. IT SHOULD BE NOTED THAT THE 1996 VALUES WILL CHANGE WHEN THE FINAL DATA ARE PROCESSED.

PRECIPITATION (INCHES)

REGION	DRIEST VALUE	DRIEST YEAR	WETTEST VALUE	WETTEST YEAR	NORMAL PCPN	1996 PCPN
NORTHEAST	.44	1924	6.96	1995	3.35	4.36
EAST NORTH CENTRAL	.25	1952	4.66	1984	2.47	3.26
CENTRAL	.53	1963	7.15	1919	3.04	2.27
SOUTHEAST	.53	1963	7.33	1959	3.16	3.69
WEST NORTH CENTRAL	.13	1952	2.72	1946	1.09	1.69
SOUTH	.12	1952	7.07	1984	2.89	2.08
SOUTHWEST	.02	1952	3.67	1972	1.12	1.05
NORTHWEST	.14	1987	5.20	1950	2.05	3.54
WEST	.01	1917	2.86	1962	1.01	.86
NATIONAL	.54	1952	3.72	1941	2.16	2.30*

* PRELIMINARY VALUE, CONFIDENCE INTERVAL + OR - .21 INCHES

TEMPERATURE (DEGREES F)

REGION	COLDEST VALUE	COLDEST YEAR	WARMEST VALUE	WARMEST YEAR	NORMAL TEMP	1996 TEMP
NORTHEAST	42.7	1925	56.0	1947	48.9	48.8
EAST NORTH CENTRAL	37.5	1925	57.6	1963	47.8	48.4
CENTRAL	48.2	1917	62.9	1947	55.2	55.7
SOUTHEAST	58.2	1987	72.8	1919	63.4	63.4
WEST NORTH CENTRAL	35.5	1925	53.9	1963	45.9	45.4
SOUTH	56.7	1976	69.9	1947	63.4	63.7
SOUTHWEST	48.6	1984	59.4	1950	53.4	52.9
NORTHWEST	42.3	1919	53.9	1988	47.7	47.6
WEST	51.8	1916	62.1	1988	56.9	56.6
NATIONAL	49.7	1925	59.8	1963	54.4	54.3*

* PRELIMINARY VALUE, CONFIDENCE INTERVAL + OR - .3 DEG. F.

TABLE 3.
STATISTICS FOR SELECTED RIVER BASINS: PRECIPITATION RANKING FOR OCTOBER 1996, WHERE RANK OF 1 = DRIEST, 102 = WETTEST, BASED ON THE PERIOD 1895 TO 1996, AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) DROUGHT, AND AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) WET CONDITIONS, AS OF OCTOBER 1996.
RIVER BASIN REGIONS AS DEFINED BY THE U.S. WATER RESOURCES COUNCIL.

RIVER BASIN	PRECIPITATION RANK	% AREA DRY	% AREA WET
MISSOURI BASIN	78	.0%	54.3%
PACIFIC NORTHWEST BASIN	93	.0%	61.3%
CALIFORNIA RIVER BASIN	56	28.8%	4.2%
GREAT BASIN	51	26.8%	18.2%
UPPER COLORADO BASIN	73	.0%	.0%
LOWER COLORADO BASIN	50	28.4%	.0%
RIO GRANDE BASIN	43	.0%	.0%
ARKANSAS-WHITE-RED BASIN	37	.0%	7.4%
TEXAS GULF COAST BASIN	29	16.3%	.0%
SOURIS-RED-RAINY BASIN	84	.0%	24.8%
UPPER MISSISSIPPI BASIN	71	.0%	4.2%
LOWER MISSISSIPPI BASIN	82	.0%	.0%
GREAT LAKES BASIN	75	.0%	45.7%
OHIO RIVER BASIN	25	.0%	23.3%
TENNESSEE RIVER BASIN	32	.0%	.0%
NEW ENGLAND BASIN	97	.0%	91.1%
MID-ATLANTIC BASIN	71	.0%	69.6%
SOUTH ATLANTIC-GULF BASIN	71	.0%	2.6%

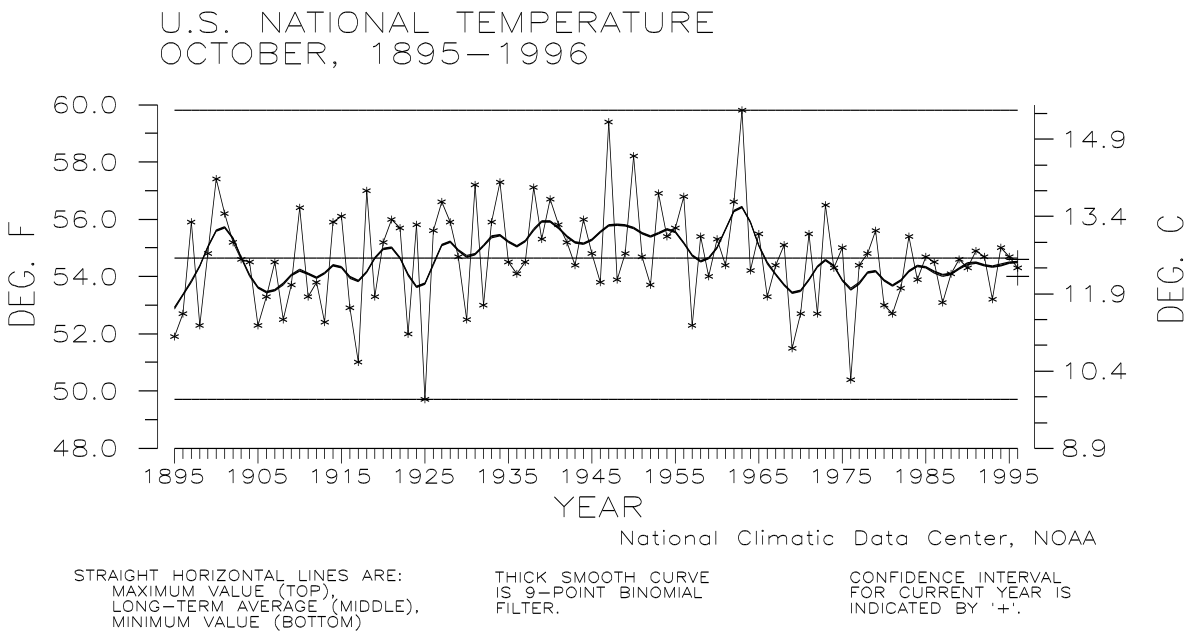

Figure 1: Preliminary data for October 1996 indicate that temperature averaged across the contiguous United States was near the long-term mean ranking as the 37th coolest October since 1895. None of the country averaged much cooler or much warmer than normal for the month. For twelve of the last fourteen years, October temperature has ranked near the long-term mean.

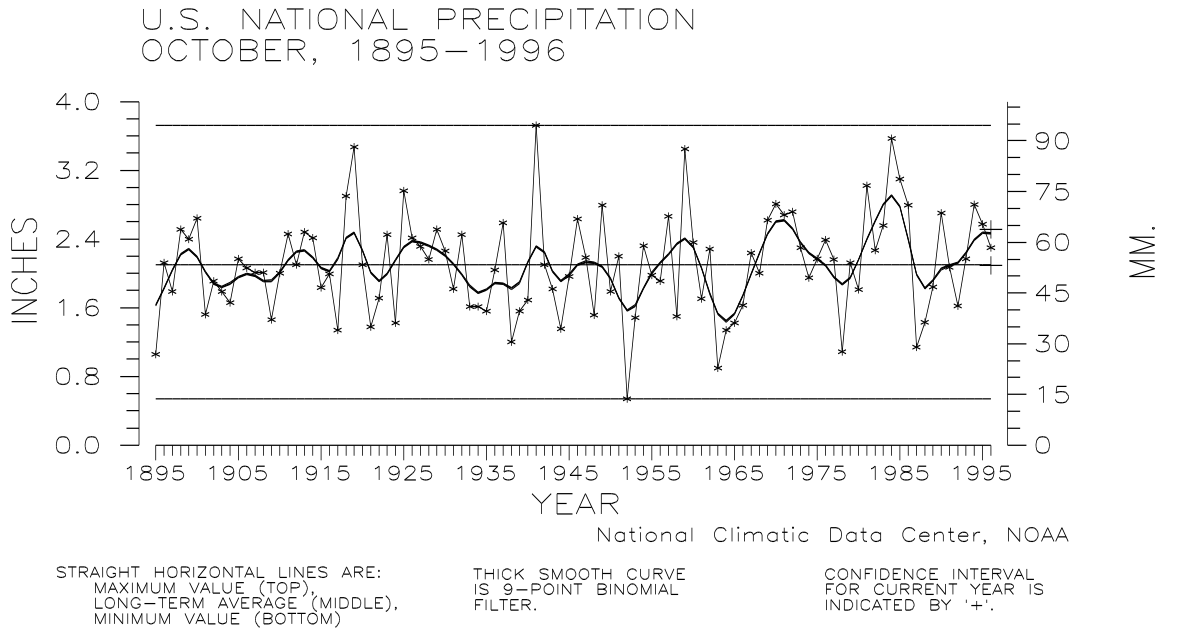

Figure 2: October 1996 was the 37th wettest such month since 1895. About ten percent of the country experienced much wetter than normal conditions while two percent of the country was much drier than normal.

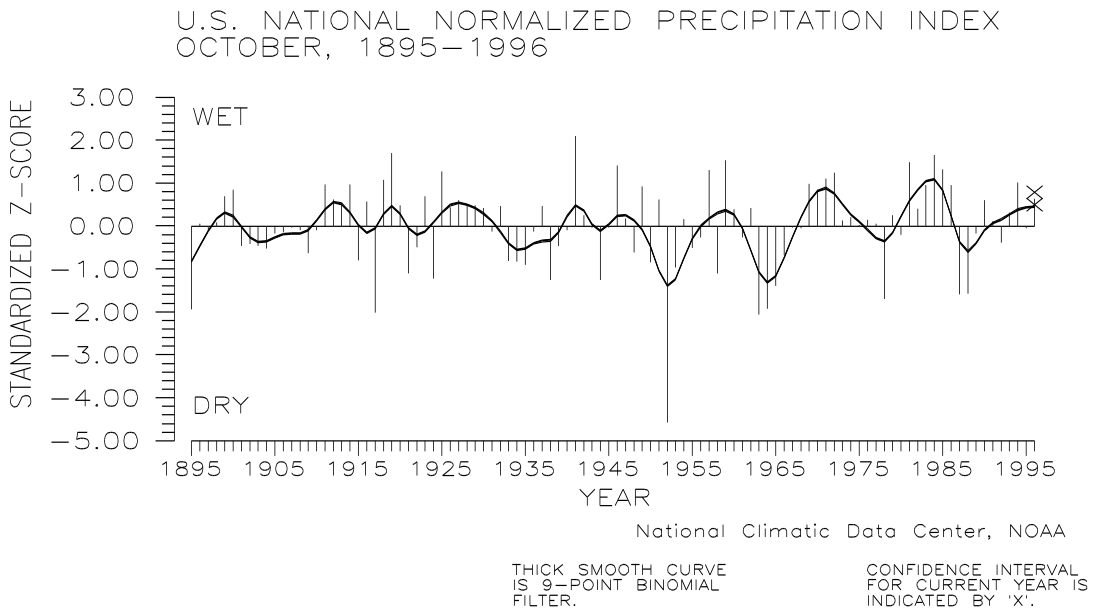

Figure 3: The preliminary national standardized precipitation index ranked October 1996 as the 24th wettest such month on record. This standardized z-score is estimated to be accurate to within 0.151 index units and its confidence interval is shown as an 'X'.

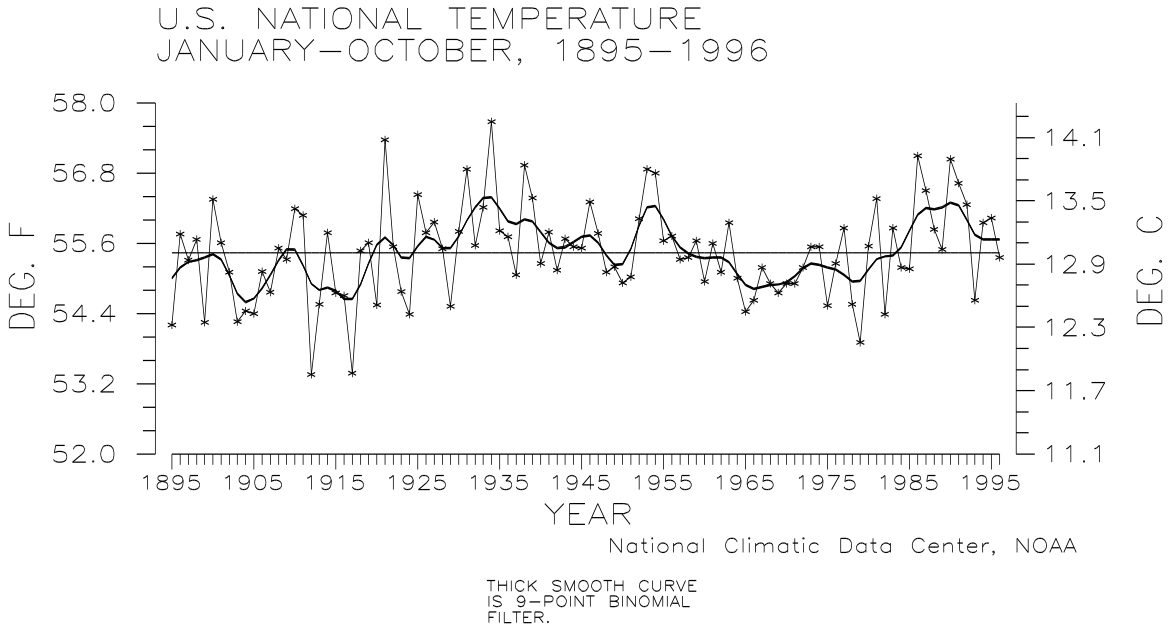

Figure 4: National averaged temperature for the ten-month period in 1996 was at the long-term mean, ranking as the 47th coolest January-October since 1895. Roughly sixteen percent of the country was much warmer than normal while about six percent was much cooler than normal.

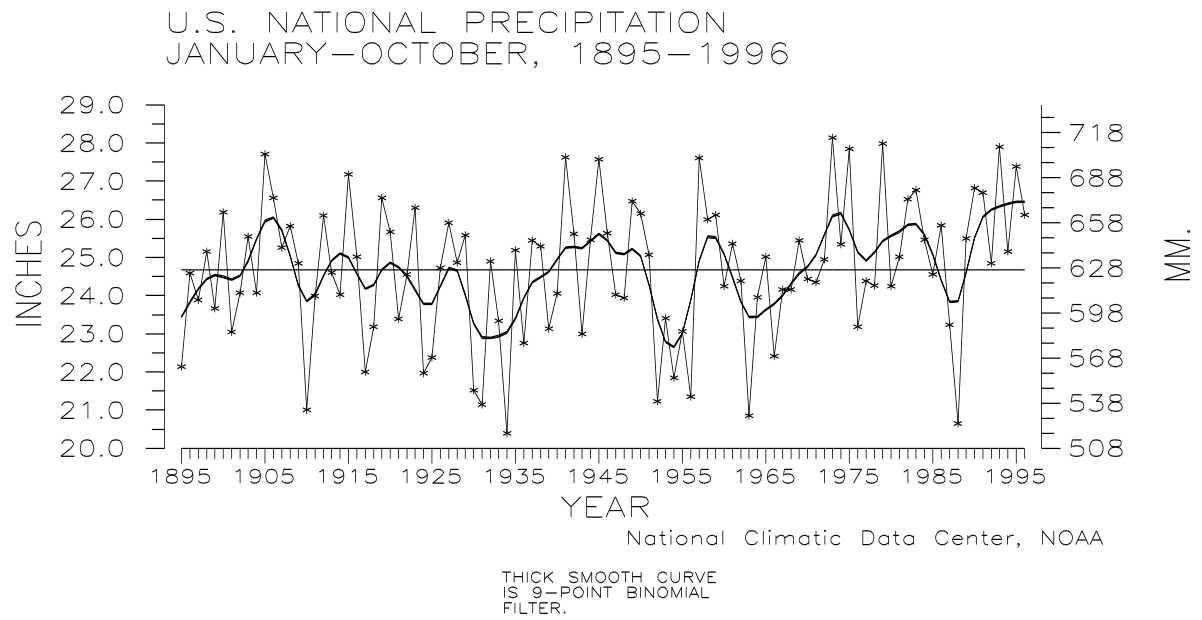

Figure 5: National averaged precipitation ranked January-October 1996 as the 22nd wettest such period since 1895. About 14 percent of the country averaged much wetter than normal while about three percent was much drier than normal for this period. Seven of the last eight such ten-month periods have ranked above to much above the long-term mean.

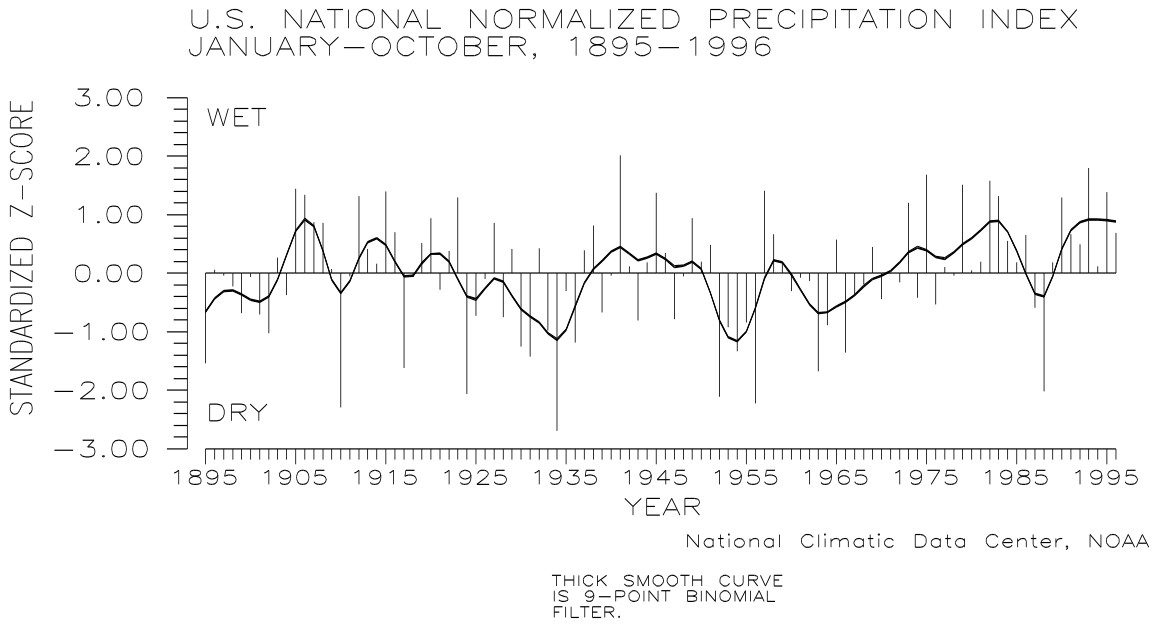

Figure 6: The preliminary national standardized precipitation index ranked the year-to-date as the 24th wettest such period on record since 1895. Sixteen of the last eighteen January-October periods had positive precipitation anomalies on the national scale, with 1996 marking the eighth consecutive such periods.

OCTOBER 1996 STATEWIDE RANKS

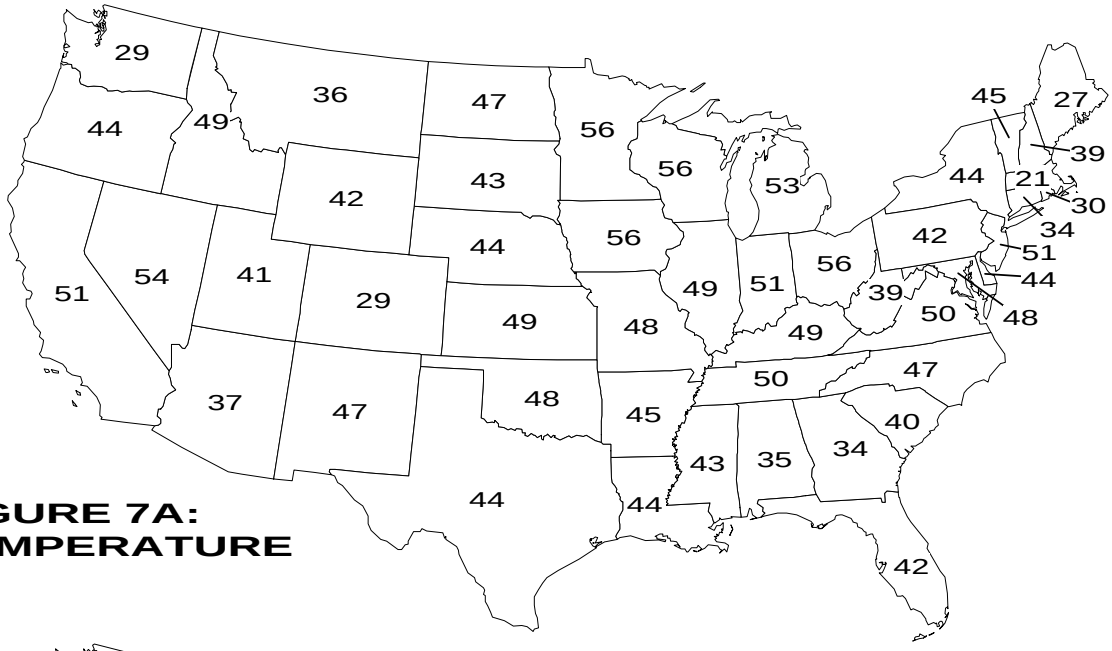

FIGURE 7A: TEMPERATURE

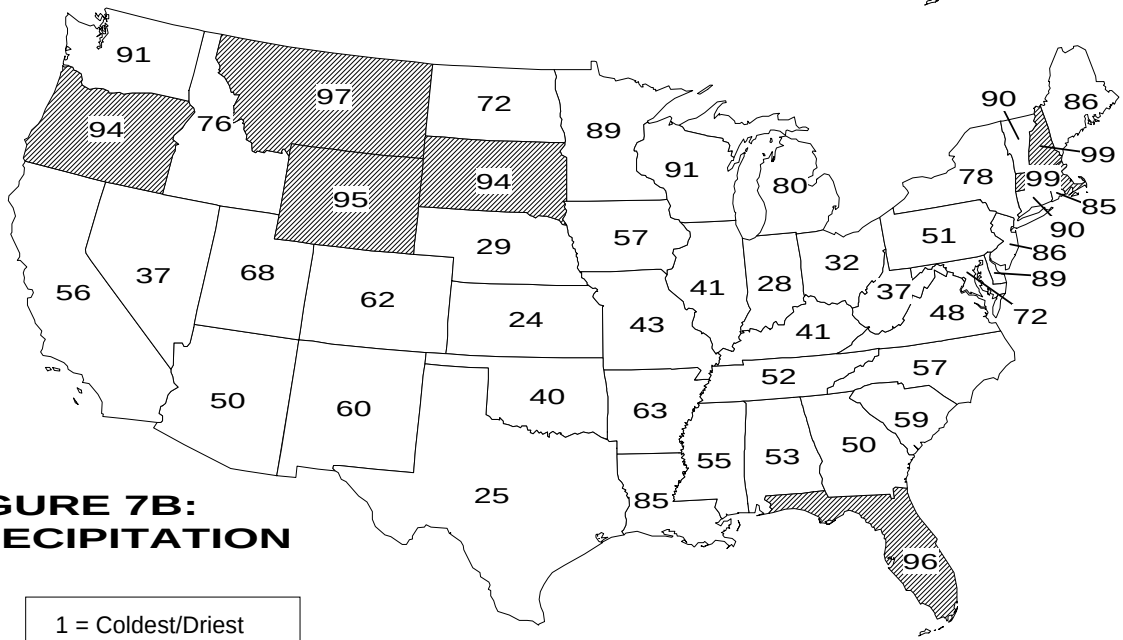

FIGURE 7B: PRECIPITATION

1 = Coldest/Driest
102 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1996. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 93-102) are shaded.

JAN-OCT 1996 STATEWIDE RANKS

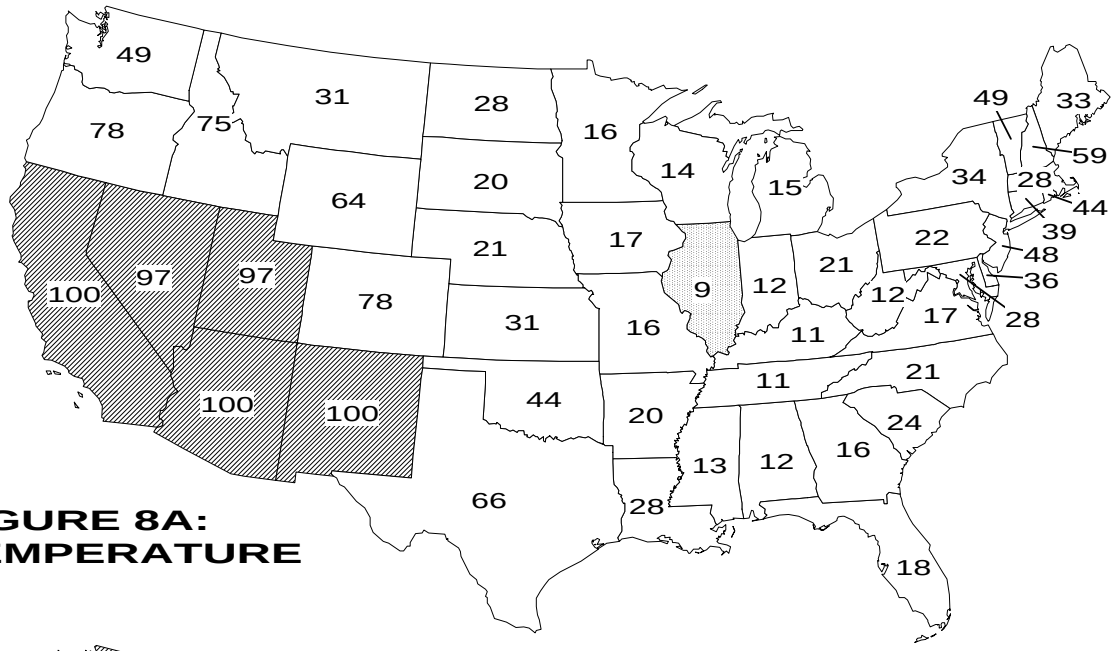

FIGURE 8A: TEMPERATURE

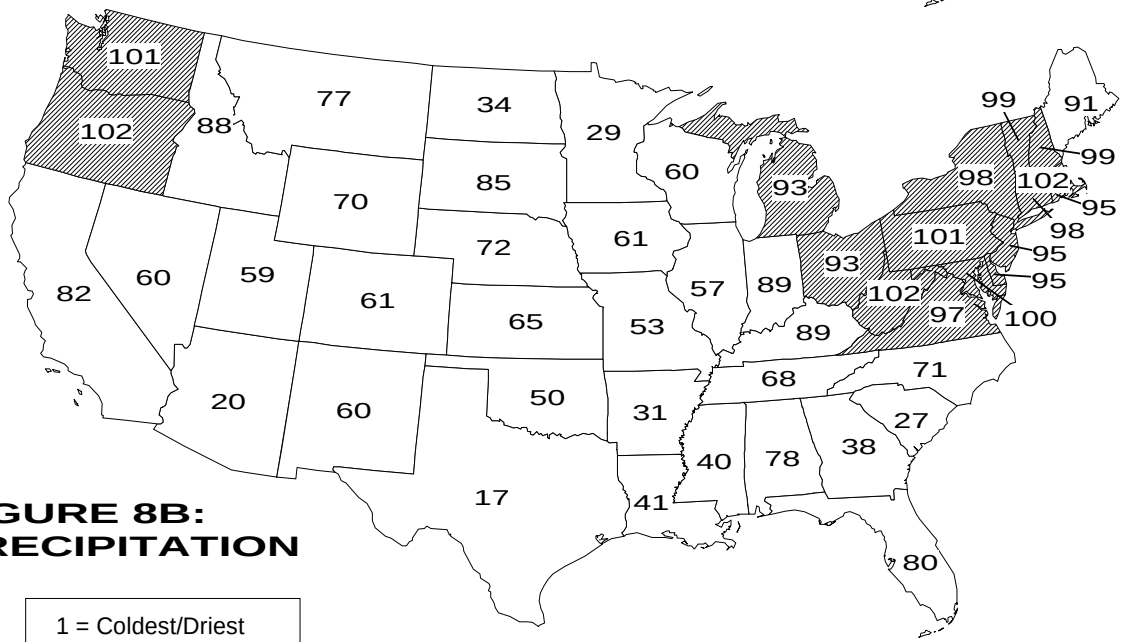

FIGURE 8B: PRECIPITATION

1 = Coldest/Driest
102 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1996. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 93-102) are shaded.

Figure 7A shows, in illustrative map form, the October 1996 temperature rankings for the 48 contiguous states. No state was within the top ten coolest while seven ranked within the cool third. Comparatively, no state was within the top ten warmest category, nor in the warm third of the distribution.

October 1996 state ranks for precipitation are shown in Figure 7B. Seven states ranked within the top ten wet portion of the historical distribution while an additional 15 states ranked within the wet third. Based on preliminary data, it was the fourth wettest October on record for Massachusetts and New Hampshire, the sixth wettest such month for Montana, the seventh wettest October on record for Florida, the eighth wettest such month for Wyoming and the ninth wettest such month on record for Oregon and South Dakota. No state was within the top ten dry portion of the historical distribution while only five ranked within the dry third of the distribution. ***It should be noted that these October state categorical precipitation ranks are preliminary and should be used with considerable caution due to the high variability of precipitation on a small space and time scale.***

Figure 8A shows the 1996 year-to-date temperature rankings for the 48 contiguous states. January-October 1996 is the ninth coolest such period on record for Illinois, the only state within the top ten cool portion of the historical distribution. Twenty-nine other states ranked within the cool third of the distribution. Five states ranked within the top ten warm portion of the distribution for the year-to-date, including the third warmest such period on record for Arizona, California, and New Mexico. It was the sixth warmest such period for both Nevada and Utah. Three other states ranked within the warm third of the historical distribution.

January through October 1996 state ranks for precipitation are shown in Figure 8B. Sixteen states ranked within the top ten wet portion of the distribution while twelve others ranked within the wet third of the distribution. Preliminary data indicated the wettest January-October on record for Massachusetts, Oregon, and West Virginia during 1996. The year-to-date in 1996 was the second wettest such period on record for Pennsylvania and Washington and the third wettest for Maryland. These preliminary data also indicate that no state was within the top ten dry portion of the distribution and only six states ranked within the dry third of the ranking.

It should be emphasized that all of the temperature and precipitation ranks on these maps and in Table 1 are based on preliminary data. The ranks will change when the final data are processed.

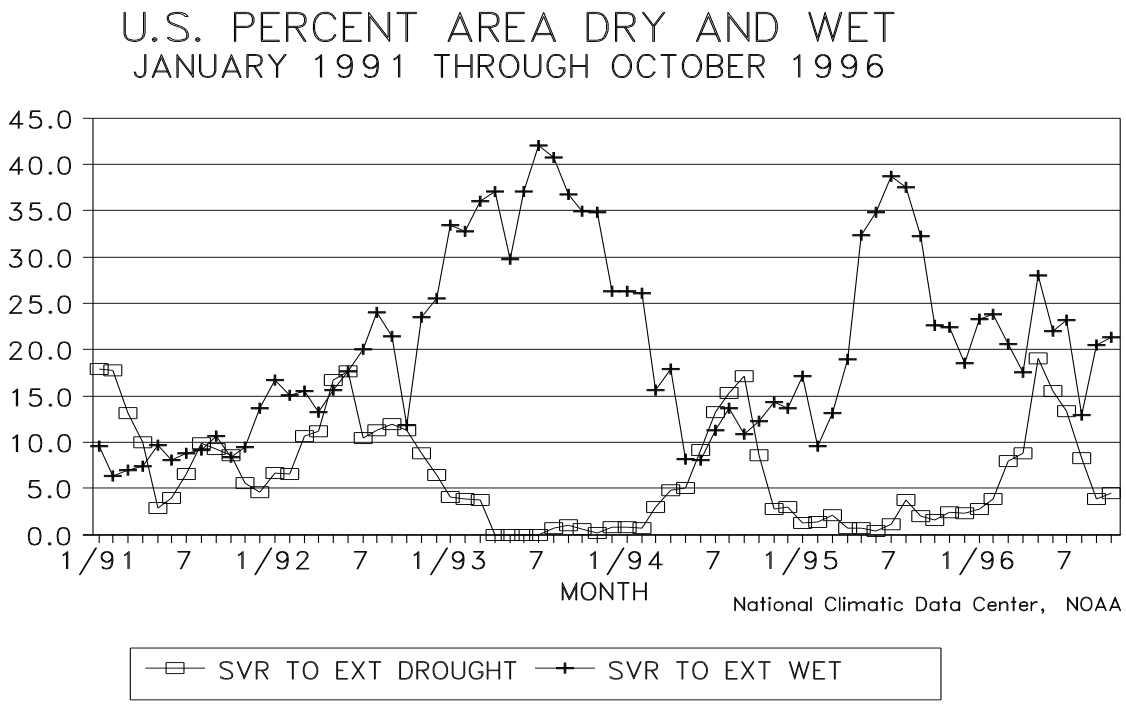

Figure 9: Long-term drought coverage (as measured by the Palmer Drought Index), as well as the percent area of the country experiencing severe to extreme wetness, both changed little on the national scale during October 1996. About 21% of the country experienced severe to extreme wetness while about 5% was in severe to extreme drought by the end of the month. Core wet areas included parts of the Northeast, central Appalachians, mid-Atlantic states, upper Mid-West, northern Plains, and interior Northwest while dry areas included portions of the Southwest and Texas.

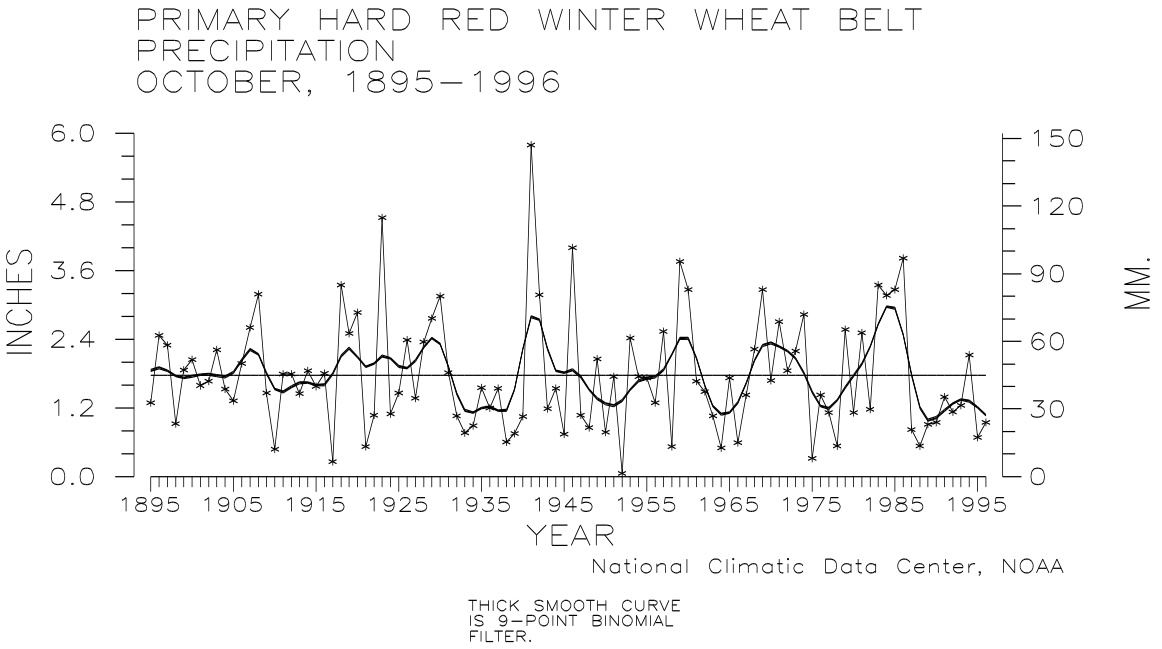

Figure 10: October 1996 was the ninth October in the last ten that the Primary Hard Red Winter Wheat Belt growing season has gotten off to a drier than normal start.

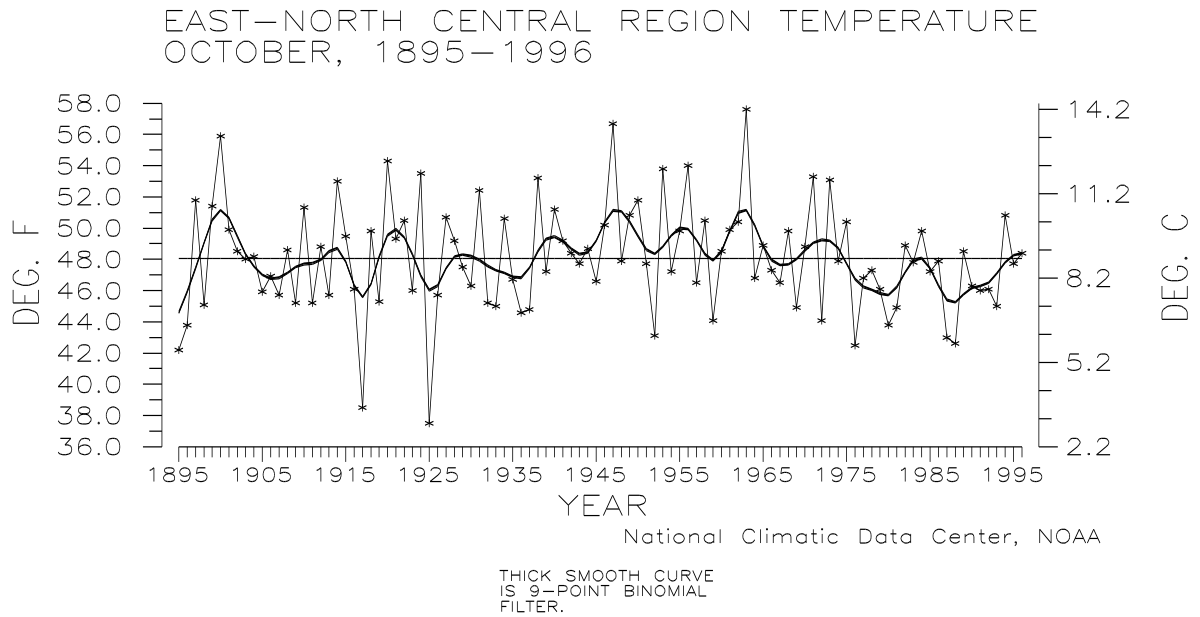

Figure 11: October 1996 was the 47th warmest such month since 1895 for the East-North Central region. Eleven of the last twelve such months have been at, to considerably below, the long-term mean.

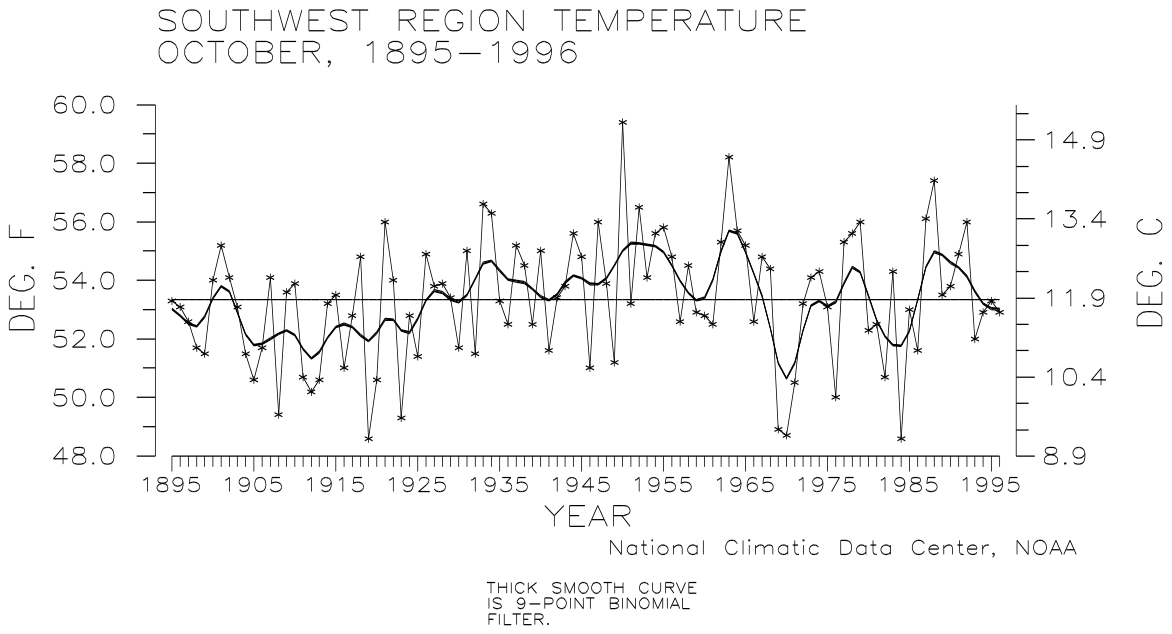

Figure 12: Conditions during October 1996 departed significantly from those experienced earlier in the year. October 1996 was the 39th coolest such month for the Southwest region. The six-month period, May through October, was the tenth warmest since 1895 while the twelve-month period, November 1995-through October 1996, was the third warmest for the region since records began.

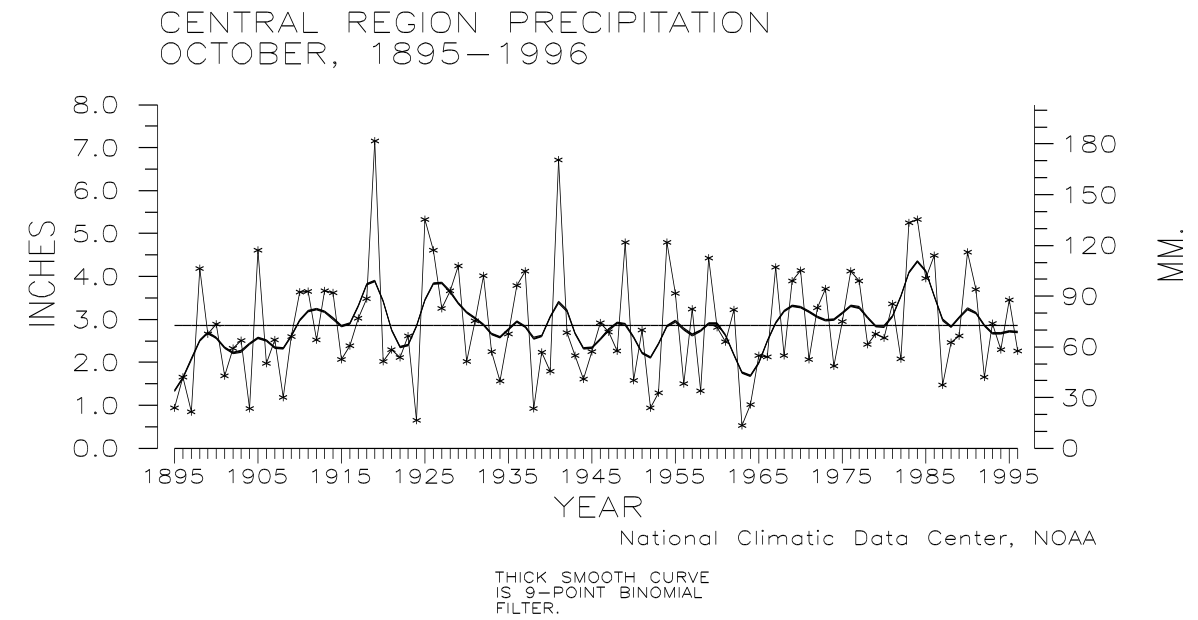

Figure 13: October 1996 was the 37th driest such month on record for the Central region and continued a four-year pattern of near-normal precipitation.

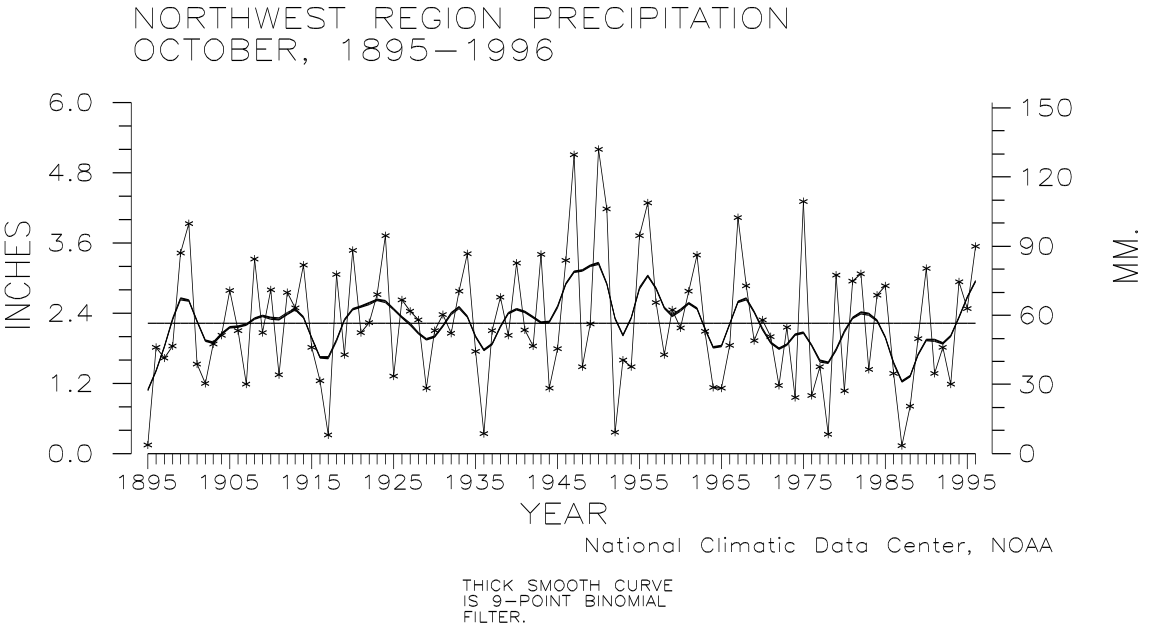

Figure 14: Unusual wetness characterized the Northwest region in 1996. October 1996 was the tenth wettest October since 1895, the two-month period, September-October, was the sixth wettest on record, and the twelve-month period, November 1995-October 1996 was the third wettest such period since 1895.